

REMARKS

I. Amendments to the Specification

The specification has been amended at page 1, line 35 to page 2, line 1, to recite that a sulfonyl group or carbonyl group is at the ortho position relative to the phenol hydroxy group. This amendment has been made to correct a translation error. Additional support may be found in the examples of the specification as filed. No new matter has been added.

II. Claim Status

Claims 1-4, 12-19 and 28-31 are pending and stand rejected. Claims 1-4, 12-19 and 28-31 have been amended.

Claims 1, 2, 3 and 4 have been amended to use proper Markush language by adding the word “and”, and to correct typographical errors.

Claim 4 has been further amended to further limit R₃₃, R₃₄, R₃₆ and R₃₇.

Claims 12-19 have been amended to correct a minor typographical error by adding a comma after “antioxidants”.

Claims 28-31 have also been amended to correct a minor typographical error by capitalizing the word “claim”.

No new matter has been added.

III. Claim Rejections

a) **Rejection under 35 U.S.C. § 102(b)**

Claims 4, 15, 19 and 31 stand rejected as being anticipated by Schofield et al. (J. Chem. Soc. 1949, pp. 2393, 2396).

The Examiner contends that the claimed molecular compound in the instant claim 4 is disclosed by Schofield citing Beilstein Registry Number 3128755. Applicants respectfully traverse. Without conceding the correctness of the Examiner's position or the need for amendment, claim 4 has been amended to require R₃₃ to be —SO₂—Y, R₃₄ and R₃₆ to be —C—Z, and R₃₇ to be hydrogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, $\begin{array}{c} \parallel \\ \text{O} \end{array}$ alkoxy having 1 to 4 carbons, hydroxyl, halogen or —SO₂—Y. Schofield allegedly describes a compound which requires a carbonyl group in the ortho and meta positions relative to the phenol hydroxy.

Amended Claim 4 does not allow for a carbonyl group to be in ortho positions (*i.e.*, R₃₃ and R₃₇) and is therefore not anticipated by Schofield. Reconsideration and withdrawal of this rejection is respectfully requested.

b) **Rejection under 35 U.S.C. § 103(a)**

Claims 1-4, 12-19 and 28-31 stand rejected as being obvious over Elsaesser et al. (EP 0 668 540 A1, or its English equivalent, U.S. Patent No. 5,753,405).

The Examiner contends that Elsaesser et al. allegedly teach the presently claimed molecular compounds, wherein the present variables X, A, B and R₃₅ as defined in the present formulas II through VI are either SO₂, S, O or CO. The Examiner contends that the difference between the presently claimed invention and what is allegedly taught by Elsaesser et al. is that the scope of molecular compounds presently claimed overlaps the scope of molecular compounds in Elsaesser. The Examiner concludes that the instant invention would have been obvious since Elsaesser et al. teach molecular compounds which are encompassed by the presently claimed molecular compounds. The Examiner further concludes that motivation exists to obtain the small genus of phenolic derivatives taught by Elsaesser et al. in Formula II so as to use them as binders. Applicants respectfully traverse.

The phenol derivative of the independent Claims 1 to 4 of the instant invention require a sulfonyl or carbonyl group at the ortho position, and molecular compounds can be produced due to this feature. In the instant specification, the phenol derivative of every Example has the aforementioned feature.

Elsaesser et al. describe 4,4'-dihydroxydiphenyl sulfone, bis(4-hydroxyphenyl)ether, bis(4-hydroxyphenyl)thioether, bis(4-hydroxyphenyl)ketone or 2,4'-dihydroxydiphenyl sulfone as the phenol derivatives in the comparative Examples included in Formula II. None of these have a sulfonyl or a carbonyl group at the ortho position relative to the phenol hydroxy, and therefore cannot produce a molecular compound.

Elsaesser et al. do not provide any suggestion or motivation to produce molecular compounds having either a sulfonyl or carbonyl group at the ortho position of the phenol hydroxy which have the properties of the present invention.

Applicants respectfully request reconsideration and withdrawal of this rejection.

CONCLUSION

In view of the foregoing amendments and remarks, applicant believes the pending application is in condition for allowance.

It is believed that no fee is required for the filing of this amendment. However, should additional fees be necessary in connection with the filing of this response; or, if a petition for extension of time is required for timely acceptance of the same, the Commissioner is hereby authorized and requested to charge Darby and Darby Deposit Account No. 04-0100 for any such fees, and applicants hereby petition for any needed extension of time.

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Respectfully submitted,

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